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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/587,587	06/02/2000	Charles R. Cloninger JR.	20903.002US	8962
22870	7590	12/24/2003	EXAMINER	
TECHNOPROP COLTON, L.L.C. P O BOX 567685 ATLANTA, GA 311567685			WASSUM, LUKE S	
		ART UNIT	PAPER NUMBER	
		2177		
DATE MAILED: 12/24/2003				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/587,587	CLONINGER ET AL.	
	Examiner	Art Unit	
	Luke S. Wassum	2177	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 28 October 2003.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-19 and 21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) 11-14, 18 and 19 is/are allowed.
- 6) Claim(s) 1-10, 15-17 and 21 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 28 October 2003 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) The translation of the foreign language provisional application has been received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The Applicant's amendment, filed 28 October 2003, has been received, entered into the record, and considered.
2. As a result of the amendment, claims 1, 5-11, 13, 18 and 19 have been amended, claim 20 has been canceled, and new claim 21 has been added. Claim 18 has been previously indicated as allowable, while claims 11-14 and 19 have been objected to as depending upon a rejected base claim. Claims 1-19 and 21 remain pending in the application.

Priority

3. The Applicants' claim to domestic priority under 35 U.S.C. § 119(e), to provisional application 60/178,441, filed 27 January 2000, is acknowledged. Since the subject matter of the provisional application is similar to that of the instant application, a priority date of 27 January 2000 has been established.

The Invention

4. The claimed invention is for a job analysis database, including the requirements, such as skills and capabilities, that a worker would need to possess in order to be able to perform a job. Specifically, the claimed job analysis database contains the physical requirements, such as strength or stamina, required for specific jobs, and can be characterized as an ergonomic job analysis database.

Drawings

5. Receipt of the Applicant's new drawing Figure 1 (and the supporting amendments to the specification) is acknowledged. This drawing is accepted.

Specification

6. In view of the amendments to the specification (including the abstract), the examiner withdraws all pending objections to the specification.

Claim Objections

7. In view of the amendments to the claims, and also the arguments presented regarding the use of 'maximum strengths', the examiner withdraws all pending objections to the claims.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

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4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 1, 3-6, 8, 16 and 17 rejected under 35 U.S.C. 103(a) as being unpatentable over **Barney et al.** (U.S. Patent 6,070,143) in view of **Mital** ("Analysis of Multiple Activity Manual Materials Handling Tasks Using *A Guide to Manual Materials Handling*").

12. Regarding claim 1, **Barney et al.** teaches a method for performing job analyses of discrete jobs substantially as claimed, comprising the steps of:

a) creating a job analysis comprising a list of job requirements and working conditions of each discrete job (see disclosure of job requirement information, including work-oriented information (e.g., tasks, roles, environment) and worker-oriented information (e.g., knowledge, skills, abilities), col. 1, lines 14-25; see also disclosure that the work context database contains all work context dimensions, including environmental conditions, col. 5, lines 38-39);

- b) creating a demands analysis comprising a list of requirements necessary for a human to be capable of in the performance of each task comprising each discrete job (see disclosure of the inclusion of worker-oriented information, embodying attributes of a worker that are required to perform the job successfully, in the master job analysis database, col. 2, lines 53-64; see also disclosure that worker-oriented information can include, among other things, skills and abilities, col. 3, lines 51-58; see also the disclosure that job information comprises 2400 task statements hierarchically housed within 290 Generalized Work Behaviors, which are, in turn, contained within 16 Generalized Work Activities, col. 5, lines 50-53);
- c) repeating steps a and b for each discrete job (see disclosure that the invention is a system and method for assessing work requirements relating to jobs, indicating that steps (a) and (b) are performed repeatedly, col. 1, lines 5-10; see also Figure 6, wherein it is disclosed that multiple jobs have been input into the system, but the above steps (a) and (b) may be performed to enter a new job); and
- d) combining the results of step c into a job analysis database (see disclosure that the data is assembled into a master job analysis database, col. 2, lines 53-61).

Barney et al. does not explicitly teach a method wherein the demands analysis includes the physical requirements of each discrete job.

Mital, however, teaches a method wherein the demands analysis includes the physical requirements of each discrete job (see disclosure that job analysis involves breaking a manual materials handling job into individual manual materials handling elements, such as lifting, lowering,

pushing, pulling and carrying, taught at page 248, item (1), and that for each element, a recommended weight/force value for a given frequency and distance is used to determine a recommended work rate, taught at page 248, item (3)).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the references, since both references are concerned with the job analysis art (see **Barney et al.**, Abstract; see also **Mital**, Abstract).

Furthermore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate physical requirements for each discrete job into a job analysis, since job analysis is based on the concept that a person's ability to perform a manual materials handling job is based on the person's capability to perform individual activities that make up that task (see **Mital**, page 248, section 3 Design/analysis procedure).

13. Regarding claim 3, **Barney et al.** additionally teaches a method wherein the various job analyses and physical demands analyses are combined to create a company specific job analysis system database (see disclosure that prior art systems are used to create a company specific job analysis, col. 1, lines 40-54; furthermore, the system as taught by **Barney et al.** and **Mital**, could be used to create a company specific job analysis by simply limiting the creating steps of claim 1 to jobs performed by the specific company).

14. Regarding claim 4, **Barney et al.** additionally teaches a method wherein the job analysis system database is made available to those with a need to know the database (see disclosure that the database contains such personal information as personality traits, education, certifications,

performance appraisals, and ADA accommodation, information that is maintained by a human resources department and made available only on a need-to-know basis, col. 3, lines 51-67).

15. Regarding claim 5, **Barney et al.** teaches a method substantially as claimed, including:
 - a) giving each discrete job a generic title (see job title field on Figure 7);
 - b) creating a brief description of the job activities for each discrete job (see job description field on Figure 7); and
 - c) creating a list of essential functions that an employee must be able to do to perform each discrete job properly (see disclosure that work-oriented information consists of information on tasks, which would include the claimed job activities and essential functions, col. 1, lines 14-25).

Barney et al. does not explicitly teach a method including creating lists of strength requirements, physical requirements, nor frequencies of certain motions or movements for each discrete job.

Mital, however, teaches a method including creating lists of strength requirements for each task of each discrete job (see Table 1 with Actual Work Rate (A) measured in (kg*m/minute), constituting the strength requirement for the specific element of the job, page 251), creating lists of physical requirements of each task of each discrete job (see the breakdown of the job into 6 elements, page 250, third paragraph), and creating a list of frequencies of certain motions and movements necessary to perform each task of each job (see the Frequency of Lifting measure for

Element 1 on page 250, fourth paragraph; see also frequency measures for each of the elements included in the Input Data of Table 1, page 251).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the references, since both references are concerned with the job analysis art (see **Barney et al.**, Abstract; see also **Mital**, Abstract).

Furthermore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate strength, physical and frequency requirements for each discrete job into a job analysis, since job analysis is based on the concept that a person's ability to perform a manual materials handling job is based on the person's capability to perform individual activities that make up that task (see **Mital**, page 248, section 3 Design/analysis procedure).

16. Regarding claim 6, **Barney et al.** additionally teaches a method further comprising creating a list of working conditions under which each discrete job is performed (see disclosure that work-oriented information consists of information on environment, analogous to working conditions, col. 1, lines 14-25; see also disclosure that the work context database contains all work context dimensions, including environmental conditions, col. 5, lines 38-39).

17. Regarding claim 8, **Barney et al.** additionally teaches a method further comprising creating a list detailing motions and maximum strengths required in the performance of each task of each discrete job (see details of Element 1 of case study 1, including box size, lifting starting point, lifting ending point, vertical height lifted, and actual weight of the box, and the resulting actual work rate, page 250, second paragraph from the bottom).

18. Regarding claim 16, **Barney et al.** additionally teaches a method wherein said database is available for viewing over a computer network (see disclosure that the master job analysis database is accessible via the WWW, col. 6, lines 18-19; see also Figure 1).

19. Regarding claim 17, **Barney et al.** additionally teaches a method wherein said network is a global computer network (see disclosure that the master job analysis database is accessible via the WWW, col. 6, lines 18-19; see also Figure 1).

20. Claims 2, 7, 10 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Barney et al.** (U.S. Patent 6,070,143) in view of **Mital** ("Analysis of Multiple Activity Manual Materials Handling Tasks Using A *Guide to Manual Materials Handling*") as applied to claims 1, 3-6, 8, 16 and 17 above, and further in view of **Keyserling et al.** ("Ergonomic Job Analysis: A Structured Approach for Identifying Risk Factors Associated with Overexertion Injuries and Disorders").

21. Regarding claims 2 and 21, **Barney et al.** and **Mital** teach a method of performing job analyses of discrete jobs substantially as claimed, including coordinating the essential functions of each of the job's tasks (see disclosure of the inclusion of worker-oriented information, embodying attributes of a worker that are required to perform the job successfully, in the master job analysis database at **Barney et al.**, col. 2, lines 53-64; see also disclosure that job analysis involves breaking a manual materials handling job into individual manual materials handling elements, such as lifting, lowering, pushing, pulling and carrying, taught at **Mital**, page 248, item [1], and that for each element, a recommended weight/force value for a given frequency and distance is used to determine

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a recommended work rate, taught at **Mital**, page 248, item [3]) with the physical requirements of each of the job's tasks (see disclosure that work-oriented information consists of information on tasks, which would include the claimed job activities and essential functions, col. 1, lines 14-25.)

Neither **Barney et al.** nor **Mital** explicitly teaches a method wherein said physical demands analysis is created by additionally incorporating a pictorial representation of each of the job's tasks.

Keyserling et al., however, teaches a job analysis method wherein a video camera and recorder, as well as standard photographic equipment, such as a 35-mm camera and film, is used to document aspects of a task, such as workstation layout, specific features of equipment and tools, and working postures for job tasks (see page 356, col. 1, under **Equipment**). This teaching suggests that the inclusion of pictorial information associated with tasks in a job analysis database would be beneficial.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the three references, since all references are concerned with the job analysis art (see **Barney et al.**, Abstract; see also **Mital**, Abstract; see also **Keyserling et al.**, see Abstract).

Furthermore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate pictorial representations of each of the job's tasks, since it is important for subsequent job analyses to have a video/pictorial record of job tasks available, particularly for jobs involving rapid motions and posture changes (see **Keyserling et al.**, page 356, col. 1, under **Equipment**).

22. Regarding claim 7, **Barney et al.** and **Mital** teach a method of performing job analyses of discrete jobs substantially as claimed.

Neither **Barney et al.** nor **Mital** explicitly teaches a method wherein said job analysis further comprises creating a list of flexions necessary for the arms and hands to perform each discrete job.

Keyserling et al., however, teaches a method wherein ergonomic job analysis is performed, comprising an analysis of the flexions necessary for the arms and hands to perform each task of each discrete job (see disclosure that awkward postures is a risk factor associated with workplace injuries, page 353, col. 2, item (1); see also disclosure that examples of awkward postures include extreme elbow postures such as flexion, and deviated wrist postures such as excessive flexion, page 354, col. 2, third paragraph; see also the example of an evaluation of the elements of a discrete job, including an evaluation of POSTURE, which requires forward flexion of the shoulders and palmar flexion of the wrists, page 360, col. 2, under **Risk Factors Associated with Specific Work Elements**, and particularly page 361, col. 1, first paragraph).

It would have been obvious to one of ordinary skill in the art at the time of the invention to identify flexions necessary for the arms and hands to perform each discrete job, since flexions are examples of awkward postures, which are risk factors for occupational injuries (see **Keyserling et al.**, page 354, col. 1, under **Awkward Postures**).

23. Regarding claim 10, **Barney et al.** and **Mital** teach a method of performing job analyses of discrete jobs substantially as claimed.

Neither **Barney et al.** nor **Mital** explicitly teaches a method wherein said job analysis further comprises creating a section for a physician to indicate his or her review and approval of the job analysis.

Keyserling et al., however, teaches a system for conducting ergonomic job analyses, whereby the core job analysis team should include a safety and health professional (see discussion of the job analysis team, beginning on page 355, col. 2, specifically item (3), discussing the *safety and health professional*), a teaching that renders the claimed review and approval limitation obvious, since the inclusion of a safety and health professional in the core job analysis team infers that any resulting job analysis has been reviewed and approved.

It would have been obvious to one of ordinary skill in the art at the time of the invention to include a review/approval step, since a safety and health professional has the training and experience to recognize and assess ergonomic risk factors associated with job performance tasks (see **Keyserling et al.**, page 355, col. 2, specifically item (3), discussing the *safety and health professional*).

24. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Barney et al.** (U.S. Patent 6,070,143) in view of **Mital** ("Analysis of Multiple Activity Manual Materials Handling Tasks Using *A Guide to Manual Materials Handling*") as applied to claims 1, 3-6, 8, 16 and 17 above, and further in view of **Parrish et al.** (U.S. Patent 5,416,694).

25. Regarding claim 9, **Barney et al.** and **Mital** teach a method of performing job analyses of discrete jobs substantially as claimed.

Neither **Barney et al.** nor **Mital** explicitly teaches a method wherein said job analysis further comprises creating a list of specific or additional requirements necessary of a specific employee for each discrete job at a specific workstation.

Parrish et al., however, teaches a method including a skill matching analysis of target occupations, producing a report detailing the deficiencies of the specific employee regarding an occupation and a training plan designed to address said deficiencies of the employee, said deficiencies constituting the claimed specific or additional requirements necessary of a specific employee (see col. 2, lines 48-56; see also col. 3, lines 45-51; see also col. 6, lines 24-26).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the three references, since all references are concerned with the job analysis art (see **Barney et al.**, Abstract; see also **Mital**, Abstract; see also **Parrish et al.**, see col. 1, lines 15-46).

Furthermore, it would have been obvious to one of ordinary skill in the art at the time of the invention to identify additional requirements necessary of a specific employee for discrete jobs, since this would identify the best employees for a specific job, even if the employee does not fully satisfy the requirements of the job, and furthermore identifies methods for addressing those deficiencies (see **Parrish et al.**, col. 1, lines 30-38; see also col. 48-55).

26. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Barney et al.** (U.S. Patent 6,070,143) in view of **Mital** ("Analysis of Multiple Activity Manual Materials Handling Tasks Using *A Guide to Manual Materials Handling*") as applied to claims 1, 3-6, 8, 16 and 17 above, and further in view of **Shear** (U.S. Patent 5,050,213).

27. Regarding claim 15, **Barney et al.** and **Mital** teach a method of performing job analyses of discrete jobs substantially as claimed.

Neither **Barney et al.** nor **Mital** explicitly teaches a method wherein said database is available on a portable storage medium.

Shear, however, teaches a method wherein a database is available on a portable storage medium (see col. 2, lines 33-40).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the three references, since all references are concerned with the utilization, and thus, the methods of accessing, including distribution, of large databases (see **Barney et al.**, Abstract; see also **Mital**, page 247, last paragraph, through page 248, first paragraph; see also **Shear**, see col. 1, lines 16-52).

Furthermore, it would have been obvious to one of ordinary skill in the art at the time of the invention to make the database available on a portable storage medium, since this would allow a user exclusive access, via his own computer system, to local, on-site databases (see **Shear**, col. 1, line 62 through col. 3, line 3), providing the advantage of rapid access time.

Allowable Subject Matter

28. Claims 11-14, 18 and 19 are allowed.

Response to Arguments

29. Applicant's arguments filed 28 October 2003 have been fully considered but they are not persuasive.

30. The Applicants argue that the combination of the Barney et al. and Mital et al. references would not have been obvious to one of ordinary skill in the art, and furthermore that the combination of the references would not result in or make obvious the claimed invention.

31. The examiner respectfully disagrees.

Throughout their arguments, the Applicants repeatedly assert that the prior art fails to teach the claimed invention, because the claimed invention creates a database of job requirements and then uses this database to find candidates who can satisfy the requirements.

However, the examiner points out that the claims fail to cite how the database is used, only the steps and parameters for *creating* the database. Thus, any ergonomic job database containing (or suggesting) the claimed limitations as to creation and composition of the database would satisfy the requirements for a *prima facie* case of obviousness, regardless of how the database is subsequently used.

Furthermore, the examiner points out that the **Barney et al.** reference teaches the creation of a job analysis database, including a work-oriented database containing information about specific jobs and their component tasks (see col. 5, lines 30-55), a worker-oriented database containing the qualifications (knowledge, skills, abilities, etc.) of candidate workers (see col. 5, lines 35-38 and 53-59), and work context database containing environmental conditions (see col. 5, lines 38-39). The only limitation of independent claim 1 not taught explicitly by the reference is the inclusion of physical demands in the work-oriented database, and this limitation is suggested by the disclosed inclusion of ADA accommodations in a products database.

While the Applicants argue that the combination of the **Barney et al.** and **Mital et al.** references would fail to teach the claimed invention, and that one would not be motivated to combine them in the first place, the examiner responds that the **Mital et al.** reference is relied upon (regarding claim 1) merely for its inclusion of physical demands in a job analysis database.

In the examiner's view, the **Barney et al.** reference might be more suited for 'white-collar' jobs, and that expanding the job analysis database to include physical demands of specific tasks would have been obvious to one of ordinary skill in the art at the time of the invention, particularly when applying the system to jobs that are classified as 'blue collar', such as assembly-line work. These are the type of jobs analyzed by the **Mital et al.** reference, thus the inclusion of said physical demands in **Mital et al.**'s job analysis database.

To reiterate, the examiner emphasizes that the claims are drawn only to the creation and composition of a job analysis database, and not to any specific method of using such a database. In view of this fact, the examiner respectfully asserts that the combination of the **Barney et al.** and **Mital et al.** references is indeed proper, and thus the rejection of record is maintained.

Conclusion

32. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luke S. Wassum whose telephone number is 703-305-5706. The examiner can normally be reached on Monday-Friday 8:30-5:30, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Breene can be reached on 703-305-9790. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

In addition, INFORMAL or DRAFT communications may be faxed directly to the examiner at 703-746-5658.

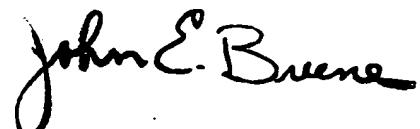
Customer Service for Tech Center 2100 can be reached during regular business hours at (703) 306-5631, or fax (703) 746-7240.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.



Luke S. Wassum
Art Unit 2177

lsw
18 December 2003



JOHN BREENE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100